



GIVEN:  $AB = 8 \text{ cm}$   
 $BC = (12-8) = 4 \text{ cm}$

$a = ?$   $b = ?$

$$(a+b) = \sqrt{(x_2-x_1)^2 + (y_2-y_1)^2}$$

$$a+b = \sqrt{(12-3)^2 + (0-9)^2} = \sqrt{81+81} =$$

$$= \sqrt{162} = \sqrt{2 \cdot 81} = \sqrt{2} \cdot \sqrt{81} = \sqrt{2} \cdot 9 = 9\sqrt{2} \text{ cm}$$

$$\frac{BC}{AB} = \frac{a}{b} ; \quad \frac{4}{8} = \frac{a}{9\sqrt{2} - a}$$

$$4(9\sqrt{2} - a) = 8a$$

$$36\sqrt{2} - 4a = 8a ; \quad 36\sqrt{2} = 12a$$

$$\frac{36\sqrt{2}}{12} = \frac{12a}{12} \quad \underline{a = 3\sqrt{2} \text{ cm}}$$

$$b = 9\sqrt{2} - 3\sqrt{2} = 6\sqrt{2}$$

$$\underline{b = 6\sqrt{2}}$$